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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. II.—3RD YEAR. SYDNEY: JULY 8, 1916. No. 3.

CRIMINOLOGY AS A BRANCH OF MEDICINE.

By **W. A. T. Lind, M.B., B.S.,**
Pathologist, Victorian Lunacy Department.

The study of the criminal is in reality a medical subject, although formerly it was regarded as mainly associated with law and theology. In order to study the criminal, one must have had a medical education, and the nearest branch of medicine to the study of crime is the study of psychiatry. A great many prisoners in fact are really only lunatics, who have sufficient degree of responsibility in the sight of the law to justify their being punished. "Crime is a disorder of conduct," as Mercier says, and anyone who has experienced the attitude the law takes up concerning insanity, is speedily convinced that the legal test of insanity is judged by conduct, so that the law practically regards the two conditions from the same standpoint. A man may be ever so insane in his ideas, and walk the streets a free man, but the moment he conducts himself in speech and action in accordance with his ideas, he is apprehended. If there is anything bizarre or irrational in his utterances or behaviour while under arrest, he is held over for medical examination, and, according to the result of that examination, his future fate depends. If the breach of the law, however, does not convey any suspicion of aberration to the arresting constable or the presiding Judge, the man is sentenced to some form of punishment, although his may be a case of well-established paranoia, or epilepsy, on account of which he should have been sent to a hospital for the insane. It appears, therefore, that many insane, unrecognized as such, are punished in his Majesty's courts, and are recognized as being mentally affected only after their subsequent peculiar conduct brings them under the notice of a medical man. Cases of this nature may be found in every hospital for the insane. I saw a patient this month, who got a month's imprisonment for attempting suicide to get away from the influence of people who, so she thought, affected her with wireless messages. These facts suggest that:—

(1) The study of the criminal is essentially a medical subject.

(2) In every case of an indictable offence, and in any case of persistent breach of less serious ordinances, the offender should be examined thoroughly by a medical man experienced in mental diseases, and having had extensive experience of the insane in mental hospitals, in order to assist the Crown in determining the exact nature of responsibility present in that person.

The question of responsibility has always been a source of contention between medicine and law in criminal proceedings ever since medical opinion was first sought in these cases, and it appears to me that the appointment of permanent specialists of experience would materially assist in adjusting the degree of responsibility to the satisfaction of the medical profession, and give peace of mind to the presiding Judge or Judges, who would know that the risk of an accused person being unfairly treated would then be very small. At present the state of affairs is very unsatisfactory. The Government Medical Officer gives his opinion, which is liable to be opposed by the opinions of several other medical men, who may not be specialists (the jury never appreciate the difference), and the number of such medical opinions for the defence varies in proportion to the funds available. I remember one case where, in a question concerning the insanity of a person, the opinion of a leading surgeon was asked for, and taken by the court against the opinions of two mental specialists with years of asylum experience. I left the court on that occasion feeling a contempt for law, from which I have never recovered. The opinion of the two mental experts was proved to have been correct by subsequent events, which transpired within a very short time of the decision of the Court. How often one reads the prisoner described in terms such as repulsive, having retreating forehead, or protruding jaw, high cheek bones, dull and brutal expression, etc.! This is simply the unmedical manner of saying that the prisoner has definite anthropological indications usually associated with certain types of criminals, who are no more responsible for their stigmata than is the judge sitting opposite him of his high brow and symmetry of features. Both are in this case examples of development; the judge, the highly developed, and the prisoner, the low type, with perhaps some atavistic tendencies or characteristics, suffering from what Maudsley describes as the "tyranny of his organization." The judge and the jury, not being medically educated, and ignorant of anthropological factors, see only the brute before them, whom they consider an object worthy of no pity, and mete out perhaps a few months imprisonment in a penitentiary, maybe also a flogging if the crime appear sufficiently serious to warrant it, whereas the proper sentence should have been a period in a reformatory, or a reception into a hospital for insane for criminals, according to whether the prisoner is a first offender or an incorrigible recidivist.

It is on these grounds that the claim is made that the treatment of the criminal should be guided by the advice of medical men in the Government service, full-time officers, whose experience and knowledge of insanity are beyond any doubt, and who shall be appointed in sufficient numbers to enable them to examine all criminals undergoing punishment periodically, and to be available by the courts in every case of indictable offence, and in every case of frequently repeated offences against less serious ordinances. This would mean appointing several fresh medical officers, and disposing of the services

of visiting medical officers, who at present do private work also. This work could not be done properly otherwise; but if the correct treatment of crime is desired, it is essential that experienced medical men should have a much greater share in deciding the question of responsibility, and the suitability of the punishment than has hitherto been the custom.

In using the word crime I mean the grave offences, which were originally punished by death, and misdemeanours, which are indictable offences of lighter grade. The breaching of petty ordinances does not come under the category of crime. Vice, although frequently associated with crime, is the over-indulgence of natural appetites which are themselves innocent, *e.g.*, intemperance and unchastity.

Crime is the product of criminals, and criminals are the product of several causes according to the class of criminal. The chief recognized factors in the production of the criminal are physical, social, and anthropological, and each of these factors has its school of supporters. Ferri and the French school consider the social the most important factor, whilst Lombroso and his school support the anthropological. Dexter is a strong exponent of the physical factor in criminality. These factors will be discussed later on, and in the meantime a classification of the types of criminals may prove interesting. The classifications best known are those by Ferri, Lombroso, Marro, August Drahms, Mosby, and Maudsley. Some of these classifications are extraordinarily complicated, but they all practically recognize two types of individuals; first, those who are born with normal constitutions, physical and mental; and, secondly, those who are mentally below standard, and frequently associated with physical abnormality.

Some call these educated crime and instinctive crime respectively. It is very hard to make a satisfactory classification of a handy nature. There are certain types of criminals recognized, as the first offender, habitual, incorrigible, recidivist, instinctive or born criminal, occasional criminal, impulsive criminal or criminal of impulse, and the insane criminal. The following classification is fairly comprehensive:—

(1) The normal-minded individual, who gives way to sudden temptation when his social instincts have beeen weakened by physical causes, or when under the influence of some powerful emotion.

(2) The individual who has become educated in crime, although normal previously. He has allowed himself to be attracted by the immediate advantage of ignoring social laws and instincts, indifferent to the future. This class of criminal, if taken in hand early, is recoverable, but if missed he developes into the chronic criminal.

(3) The instinctive criminal, who is anthropologically defective. His mind is intellectually and morally poor, and he is incorrigible from the first, and is always antisocial in his ideas. His primary instincts are usually strongly developed.

(4) The criminal insane. This individual is definitely insane, and the crime is the product of his insanity. To this class can be added the moral idiot and the intellectually deficient. The latter are, however, not antisocial, only weak and easily tempted.

Returning to the question of factors which cause criminals, we have, first, the physical. It has been shown by Dexter that temperature, humidity, altitude, and telluric influences are all discernible in the production of criminals, and also in the type of crime. Crimes against the person are highest in the spring and summer, and those against property are highest in winter. Hot weather increases crimes of impulse, and the maximum of suicide occurs in the hot weather. Mountain wilds usually produce more crime than flat country, as the opportunities to escape are greater, and the rugged life produces rougher characters. The intense cold of the antarctic regions in Scott's expedition produced a state of touchwood temper amongst the members, which only the fine leadership and the strong characters of the personnel of the party prevented from developing suddenly into actual strife amongst men who, in other temperatures, were all good comrades. We, in Melbourne, are all familiar with the irritation of the temper which the east and north winds produce. In the cities, crime is more frequent than in the country districts, mainly because the city attracts the criminal classes, for there lie their prey and the means of dissipation amongst the low-class hotels, and the collection of individuals who, though not actually criminals, do not hold crime in such aversion as the more law-abiding, intellectual community. Amongst the social factors of crime we have the presence of slum areas, the unwholesome surroundings of which, with their overcrowding, take away from the growing boy and girl the sense of modesty and morality. The children brought up in such surroundings become accustomed to language, sights, and ethics which are the fundamental principles of a criminal education. Poverty by itself does not cause crime. The West of Ireland, the poorest locality in the British Isles, has the lowest crime rate. This is probably due to several causes, such as the scattered nature of the population and the fact that all are poor. It is when poverty exists within sight of extreme wealth that poverty is most felt, because it is resented by contrast; and the feeling of inequality of wealth, when the opportunity to betterment by theft is present, instigates crime against property, which, if resisted, culminates in crime against the person. When persons of wealth become criminal, they do so for the same general reasons that impel poor people to the same conduct, *viz.*, they do not entertain a proper sense of their responsibility to society, or, in other words, they have not been properly educated.

Ill-health is a potent cause of crime in weakening the inhibitory powers of the individual, especially if associated with poverty. Defective education is responsible for swelling the number of criminals, when the system educates the intellect and neglects the moral sense. The public school spirit has engendered an improved moral tone in nearly all its scholars. This tone is unfortunately not obtained in the State school system, where the teaching staff do not enter so much into the scholars' recreations and sports as they do in the public

schools. The boy scout movement introduced recently is to a considerable extent supplying the missing quality in the State school scholars. No man completely educated, that is, well educated in both his intellectual and moral faculties, will become criminal except in rare cases of crime by impulse. Another factor favouring the cultivation of criminals in our midst is the abuse of alcohol. This belongs to the domain of the temperance reformer as a rule, and has been discussed so often from that platform that it is hardly necessary to mention more than the facts that the inhibitory powers are very much lessened when the individual is under the influence of alcohol (*vide* the report of the Commission inquiring into the question of Venereal Disease in New South Wales, 1915-1916), and that the drinker's family loses in nourishment and clothing the commercial equivalent of the money spent by the father in unfitting himself for his occupation.

Other social factors in the making of criminals are the employment of young girls in factories, unchecked vagrancy and the lack of healthy, useful recreation for those between the age of puberty and twenty. The formation of pushes to roam the streets at night, and the accumulation of young lads in billiard-saloons night after night, should be prevented, and technical schools should be built and equipped, as in the worst slums of London, to occupy the spare hours of the youths in districts which have no other facilities for recreation close at hand. Hall, in his "Adolescence," lays stress on the fact that it is between the ages of puberty and full growth that the majority of the first offenders join the ranks of crime. At the age of adolescence, the individual is mentally in a very unstable condition, and those who have studied the average youth in the home will have noticed that at this period he is more difficult to manage than at any other time, being resentful of discipline, yet wishing to dominate the household himself. He is suffering from being a man physically, and yet being treated as a boy still, and if his attention is not kept on healthy subjects, he is more likely at that time than at any other, on account of his inhibitory powers being not fully developed, to revert to the primary instincts of the savage whose social instincts are undeveloped. This is not so likely to happen when the youth is older, because he has then acquired his social instincts and more self-control. With the savage, there is no crime as such. The killing of an enemy is prowess in the sight of the savage, and plunder is the sign of the conqueror and the capable. Gambling is another source of crime, as it becomes a passion, which appropriates all the attention of the youth, to the detriment of the development of other useful attainments. A great number of trusted bank officers have come to grief through this short-cut to riches. Most criminals have the gambling passion strongly developed, and with it they are very superstitious. The fact that every crime they commit is taking a chance against detection and arrest, shows how intimately the gambling instinct is associated with anti-social instincts. Of recent years another factor in social influences on crime has sprung up in the picture-theatre, with its stimulating imagination of sordid and morally unhealthy happenings. If directed into proper channels, these picture-shows could be a means of education, but, in common with the gutter press, which dishes up all the muck of life, and the publishers of a certain class of cheap novel and periodical, the picture-shows, unfortunately, are out for money, no matter what it costs the moral tone of the community.

The last factor to be mentioned amongst the social causes of crime is the failure to prevent mental defectives propagating their kind. These mental defectives follow the lines of least resistance in the temptations of the world, and as their progeny have the disadvantage of their parents' example, a low type of social life is soon established, which contributes largely to the increase of criminals.

The anthropological factors of crime are regarded by Lombroso and his school as being the most important. The proportion of prisoners who come from demented or epileptic parents is very large, according to McConnell, in his book on "Criminal Responsibility."

Chronic ill-health predisposes to lessened inhibitory powers, and records that have been taken in various countries show that venereal disease and heart disease are abnormally frequent among prisoners. It is recognized amongst those who work with criminals that they are, as a rule, below mental and physical standard. Amongst the stigmata that have been specially noticed are:—

Aural anomalies, disproportionate length of arms, defective chest measurement, weak heart, prehensile toes, left handedness, atavistic dental anomalies, prognathic jaw, facial asymmetry, cranial stigmata, sexual anomalies, Darwinian tubercles, prominence of zygoma.

Many of these can be verified by attending the criminal courts of our big cities.

The man who is entirely normal, mentally and physically, is naturally averse to crime.

The psychical peculiarities of criminals are very much like those of the insane, that is, the congenital insane, not the acquired type. The criminal insane are quite a special class of criminal, in which the crime is the outcome of the insanity, *e.g.*, actuated by a delusion. The insane criminal, that is, a criminal who has become insane whilst serving a sentence, must not be confused with the criminal insane.

Amongst the psychical features noticed most frequently in criminals are vanity, emotional instability, improvidence, use of slang, malingering, tattooing on the body, impatience, vengeance, defective senses, relative insensibility to pain, superstition, lack of self-control, impulsiveness, precocity. The precocity of the born criminal is very marked.

Treatment of Crime.

Prophylactic.—Following on the lines indicated in discussing the social factors of crime, it is advisable that the growing youth of both sexes should be specially cared for by the State, as home training and control appear to be sadly deficient nowadays. If a youth of 15 or 17 is earning his own living, the parents find it difficult to enforce the control they should, and, after a futile attempt in many cases

and none at all in others, they give it up as useless, and trust to luck. The State should, therefore, as history reports it did among the ancients, take more vigorous action in safeguarding youth from the more generally recognized evils, as it is quite obvious to the most casual observer that parental control is practically absent in a great number of cases. All the social factors that have been mentioned as making for crime should be checked. Legislation for the suppression of questionable literature and picture films should be enacted, and more power should be given to the police in breaking up "two-up schools" and similar companies of youths. These cases should all be tried by police magistrates, and not by local justices of the peace. If every crime committed was sure of detection, there would be fewer crimes, and they would be limited to crimes of impulse and those committed by the instinctive criminal. The police force, both plain clothes and the criminal investigation department, requires improvement in numbers and education in the detection of crime. Female constables would assist materially when working in conjunction with the ordinary constables, so that girls and women could be policed by their own sex. Dr. Winas, in Hall's "Adolescence," points out that extravagance and debts, with illicit sexual indulgence, are the most common causes of juvenile crime. In the classes of individuals not owning congenital or instinctive tendencies to crime, the crimes at first are more directed against property than against the person, although the latter may follow if the former be unchecked.

Punishment of Crime.

In early periods of this world's history, the exactment of vengeance, on "an eye for an eye and a tooth for a tooth" principle, was practised. Later, punishment was inflicted as a deterrent. This failed to prevent crime, on account of the method of administering the punishment. When punishment is administered without reformative efforts, it arouses in the criminal mind a resentment against society, and also a craving for revenge against the laws which prescribed the punishment. It also gives the criminal the feeling that, as he has paid the price of his crime, society has no more claim against him. In other races, the more uncivilized the people the more revolting the punishment they adopted. The rack and thumb-screw were kindly tortures compared with some in use a few hundred years ago, but they did not put a stop to crime. The chief aim of punishment should therefore be reformative. It is not politic to reduce crime to a pathological phenomenon, as some would do. It may be scientific, but it is not ethical, for this would be refusing to recognize the commonest moral distinctions. Crime must be punished, but the punishment must be looked upon as a medicine to cure an evil. "Against diseases we employ remedies that help, even though they burn and smart; so, if we regard crime as a disease, we must employ punishment as a remedy, the punishment being humane and reasonable." In certain cases physical pain is the only way of fixing the occasion of detection on the mind of the criminal, but, on the whole, the punishment should be of a humane and educational nature. There should be no mixing of hardened criminals and first offenders in the common workroom or yard, as the contamination of a first offender by contact with confirmed criminals tends to further the education in crime of the susceptible tyro. Solitary confinement should be done away with, because it destroys physical and mental health. Enquiries into the result of solitary confinement show that it tends to cause the habit of masturbation, followed in time, if the confinement be sufficiently prolonged, by delusions of persecution by electricity, probably due to the tingling sensations in the limbs, of which excessive masturbators complain. Restrictions there must be, and deprivations of all kinds compatible with health, but all this time the prisoners should be kept busy in mind and body with work which will teach them a means of livelihood when the sentence is completed. It is an extraordinary fact that prisoners, who are not "lifers" or long sentence men, all prefer a gaol sentence to being sent to a hospital for the insane, because in the gaol sentence they know exactly how long they will be there, while in a hospital for the insane they know they are there until fit to be allowed out. That sentiment has been expressed frequently in the case of patients at a hospital for the insane who have spent their lives in and out of prison or asylum. Instead of any definite sentence being imposed on prisoners, it would be better if the judge could send them to a reformatory until signs of improvement appear. They could then be allowed on trial leave, to be brought back at any time they transgressed and the period of detention lengthened. If satisfactory behaviour whilst on trial leave resulted, then a complete discharge could be granted after reasonable probation had been fulfilled. Let the treatment of criminals be conducted somewhat similarly to that adopted in the treatment of the insane in mental hospitals, and crime will be lessened for several reasons:—

(1) Because recidivists, habitual criminals and incorrigibles will always be in custody—for preference in a hospital for the criminal insane or similarly conducted institutions.

(2) Any prisoner showing signs of reforming will have an opportunity to make good whilst on trial leave, and thus earn his discharge.

(3) The first offender will receive special treatment and be kept away from the influence of confirmed criminals in a reformatory.

To treat a crime of impulse such as murder, when committed by a usually well-conducted individual, by inflicting capital punishment, has no value when looked upon from the standpoint of deterrence or social utility. As Mosby says, if execution is to act as an example to deter others, then it should be carried out in public and not in private.

Public executions did not prevent capital crimes in former days. On the contrary, we hear of rioting, with fatal results, in the mobs assembled to witness a public execution.

In extreme conditions, capital punishment may be suitable when incorrigibles commit capital crimes, and they should then be, as suggested by McKim,

"gently removed from this life." The determination and administration of sentences imposed on criminals should be guided throughout by the advice of experienced, full-time Government medical officers, such as we have in the hospitals for the insane.

Literature.

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Reports of Cases.

CALCIFIED GLANDS MISTAKEN FOR URETERAL CALCULUS.[1]

By **D. Kelly, M.B., Ch.B. (Melb.),**
Honorary Surgeon, Mater Misericordiae Hospital, Sydney.

J.M., æt. 42, a sergeant in the military forces, was first seen by Dr. Curtis on the evening of July 9, 1915. He complained that, whilst sitting at tea, he was seized with violent pains in the back, over the right kidney, and from his ribs down to his right flank. The pain was so severe that he rolled on to the floor. He sweated freely, but did not vomit. Hot applications relieved him during the night, and the next day he was somewhat better. He was sent to the Sydney Hospital, to be examined by X-rays, renal calculus being suspected.

The röntgenological report was shadows below the right kidney, along the course of the ureter.

Dr. Curtis saw him again on July 11, and, as he was still in great pain, he was sent into hospital.

I saw him for the first time that afternoon. He looked very ill; his temperature was 103° and his pulse-rate was 120. The heart and lungs were normal; the tongue was coated and becoming dry. Urine high coloured, specific gravity 1020, no pus, albumin, blood, or sugar.

His muscles on the right side, from the ribs to the flank, were very rigid, and slight pressure in this region caused him to call out, as also did pressure from behind, over the region of the kidney. The left side was not rigid. I looked upon the case as one of either acute appendicitis or infective cholecystitis, and operated on him at once. The incision along the right rectus muscle was made, higher than usual for an appendix and low for a gall bladder, but with a view to extension either way.

On putting my fingers into the belly, almost the first thing felt was two stones. They were apparently in the ureter. Further examination showed the stones to be calcified glands, and I removed them. The appendix was then found; it was pointing towards the liver, and when it was brought out the tip showed that it had formed a recent adhesion; otherwise, it was quite normal.

The incision was then extended upwards, great care being taken of the nerves. The gall bladder was found to be dark red and shiny and acutely distended. It pointed backwards. Soft adhesions existing between it and the colon were separated, and it was packed off carefully. About two ounces of dark and thick fluid, evidently purulent, were aspirated from it. The bladder was then opened, three small stones removed, and a drain tube was inserted. It would have been better surgery to have removed the gall bladder, but the incision was not one suitable for removal, and the patient's condition was not satisfactory.

The temperature was normal next morning, and in two days the patient felt quite comfortable. There was a free drainage of bile. The tube was removed on the seventh day, and the patient left hospital on the twenty-fifth day, with his wound completely healed.

The sudden onset and severity of the pain, starting in the back and radiating forwards and downwards, and the fact that an X-ray examination revealed "shadows," certainly pointed to renal calculus. But the absence of any blood in the urine, the high temperature and the rigid abdomen at the time when I saw the patient, led me to think that the affection was in the abdominal cavity.

The röntgenological report was not the usual one that is received, shadows along the course of the ureter being quite different to stones in ureter. The position of the gall bladder, pointing backwards, would account for the pain felt on pressure from behind.

There are a few remarks I wish to make, not connected with the case.

In operating along the outer border of the rectus, the most important thing is to save the nerves. As each nerve is met it is carefully pushed aside, and, in sewing up, it is as carefully replaced, to prevent, if possible, its being caught in scar tissue. I have often seen nerves sacrificed.

Blood vessels may be cut at will, but cut nerves mean subsequent hernia.

I have often wondered why, when a gall bladder is drained, there is so much bile lost during the hours of sleep. It surely cannot be that more bile is secreted when digestion is not going on, and one wonders if the opening at the papilla of Vater is only patent when the stomach contents are passing through the duodenum. We know that at this time the bile is ejected into the duodenum in jets, and ascribe this to the contractions of the gall bladder. This ejection into the duodenum, of course, cannot occur when there is a tube in the gall bladder.

Again, if the opening at the papilla was closed by a sphincter muscle when the duodenum was empty, one would expect pancreatic juice in the dressings.

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on May 12, 1916.

JACKSON'S PARIETO-COLIC MEMBRANE PRODUCING SYMPTOMS.[1]

By **C. E. Corlette, M.D., M.Ch., D.P.H.,**
Surgeon, Sydney Hospital.

On January 28, 1914, L.K., æt. 19, female, was brought to me, complaining of severe pain in the right side of the abdomen. The present attack had lasted for two days, but the history showed that, for the past six years or more, the patient had had pain in the same situation almost constantly. At various times acute exacerbations of the pain occurred. These attacks lasted several days, and had been diagnosed as appendicitis long ago by her medical attendant, who recommended operation. All her life she had been subject to most obstinate constipation, frequently requiring enemata.

Examination showed her to be a well-developed, well-nourished girl of normal colour, and with sound chest organs. The abdomen was of natural appearance, but palpation showed an area of very marked tenderness at and a little above McBurney's point, with the right rectus muscle on guard. Temperature was normal and the pulse-rate 96. There was no nausea or vomiting during present attack, though she had sometimes vomited during previous attacks.

A provisional diagnosis of appendicitis was made, and she was operated on the same day. The usual incision having been made and the abdomen opened, the first thing that was noticed was a very large caecum, quite distended with semi-solid fæces. Just above the caecum the ascending colon was observed to be disproportionately narrowed and bound to the right side of the abdomen by a stout, broad, pericolic membrane (Jackson's membrane), taking its origin from the parietal wall, just above the incision. It was quite evident that this was the cause of the trouble. There was a small peritoneal fold at the ileo-caecal junction, but apparently not important. The appendix appeared to be normal.

Appendicectomy was done, then the ileo-caecal band was released, and afterwards the large band incarcerating the ascending colon was dealt with. This left the colon free and unhampered.

Next day the pain was quite gone, and her period of recovery from the operation calls for no particular remark. On the other hand, her later history is most interesting.

For a few months after operation she continued to suffer

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on May 12, 1916.

a good deal from constipation, necessitating enemata at various times. The adoption of liquid paraffin as a habitual daily dose seemed to relieve the constipation. However, her condition could be described as greatly improved. Her pain returned at times, but this, too, was obviously better. Her symptoms became less and less, and by degrees disappeared altogether, and she has now for nearly two years been quite well.

But even more striking was another change in her. Although physically well-developed before her operation she had only the mental development of a child of twelve. Further than that, she had always been subject to attacks of violent and uncontrollable passion, and was most difficult to manage. During the two years or so that have elapsed since the operation, her mental condition has undergone a most marked improvement. She is no longer refractory, and she has shown a very great amelioration of temper. Her mother says she no longer exhibits her old violent attacks of passion, and is altogether a different girl.

The output of literature on the subject of intestinal bands and kinks has for some years been of very considerable volume. In spite of the volume of the literature, much of the material supplied in it has been very unconvincing, and I have remained cautious and somewhat sceptical. These movements betoken a wave of fashion, and there may be much or little in them. I believe there is something in the indictment against bands and kinks, but I feel sure that there has been a strong tendency to over-estimate their importance. I have loosened a good many bands met with during abdominal work, but beyond those of definitely inflammatory origin I cannot say that I have been strongly impressed with their importance as a factor in the production of symptoms. The case I have just described is an exception. I regard it as a quite clear and unequivocal demonstration of trouble produced by a congenital parietocolic membrane, and of the relief following appropriate operative treatment.

Reviews.

THE ENDOCRINE ORGANS.

Sir Edward A. Schäfer delivered the Lane Medical Lectures at the Leland Stanford University, California, in 1913, on the internal secretions. He has thought it desirable, with the concurrence of the University authorities, to publish the substance of the lectures in a revised form, with the tracings and photographs which were used to illustrate them. The aim of this little book[1] of 150 pages is to supply a concise account of the present state of knowledge of the internal secretions for the benefit of practitioners who are desirous of obtaining more information than is afforded by the ordinary text-books of physiology, but have not the time or opportunity to read extensive monographs or to consult original articles. By the term endocrine organ he implies an organ which is known to form some specific chemical substance within its cells, and to pass this directly or indirectly into the blood stream. These substances are much more simple in chemical nature than the bioplasm by which they are formed. They are also far simpler than the enzymes which form the active agents of the external secretions. They are dialysable and, for the most part, resistant to heat. Many of them act instantly. Their action is similar to that produced by the active principles of drugs, especially those of vegetable origin. Other internal secretions act more slowly, so that the results of their action may only become apparent after a prolonged period of time. Such substances usually exert their influence upon the growth and nutrition of special organs or of the body generally. None of them give rise to antibodies. For all these substances Schäfer proposes the general name of autocoids.

The endocrine organs that are considered are the thyroid and parathyroid glands, the thymus gland, the suprarenal capsules, the pituitary body, the pineal gland, the alimentary mucous membrane, the pancreas and the male and female generative organs. The account of the physiology of each of the endocrine organs comprises a description of its structure and its histological features, a summary of the effects of the introduction of the autocoid into the animal body, a discussion of the results of the removal of the organ, a study of the clinical manifestations evoked by its atrophy, excision or enlargement and a statement of its relations with other organs. Each account is well illustrated by reproductions of microphotographs of histological sections, by copies of graphic records and by prints of photographs of animals and patients affected with lesions of the endocrine organs.

Where all is well done, it is difficult to select any portion for special comment. The five chapters that deal with the pituitary are of surpassing interest. The hypophysis cerebri can no longer be regarded as a rudimentary organ or the vestige of a structure formerly endowed with function, since it is known that, from one part of the gland, autocoid substances can be extracted which exert an active influence upon some of the most essential organs of the body, while from another part principles are furnished to the blood which serve as regulators of nutrition and growth. The description of the gland is based on the studies of Herring, which were made in the laboratory at Edinburgh, under Schäfer's direction. The gland is divided into three parts, the *pars anterior seu glandularis*, the *pars nervosa* and the *pars intermedia*. In addition to a good account of the minute anatomy, some attention is paid to the unusual arrangement of the vessels distributing the blood. This is followed by the record of the effects of the autocoid of the *pars nervosa* and the *pars intermedia*, which, together, constitute the posterior lobe. This autocoid is the active principle of commercial preparations of pituitrin, hypophysin, etc., and exerts its action on the vaso-motor system, the viscera supplied with plain muscle, the tissues separating the cerebro-spinal fluid, and the mammary glands. The next chapter contains an account of the effects of complete and partial hypophysectomy. After injury or after partial removal, retardation of growth in young animals is a striking result. Temporary glycosuria is also noted. When this has passed off, removal of the pancreas no longer leads to diabetes. Attempts to transplant the whole gland or fragments of any of its parts have been, up to the present time, unsuccessful. The most remarkable result of feeding with the gland has been that observed in hens. The number of eggs laid in a given time is greatly increased. A chapter is devoted to clinical evidence on the functions of the gland. Acromegaly and pituitary gigantism are considered as examples of hyper-pituitarism, while dystrophia adiposo-genitalis and pituitary infantilism are regarded as due to hypo-pituitarism. Finally, the relations of the organ to the sexual glands, to the thyro-parathyroid apparatus and to the pancreas and other organs concerned with carbohydrate metabolism are discussed.

This book is printed with care in well-spaced type, which makes its perusal a pleasure. It can be recommended to every medical practitioner whatever may be his interests.

[1] The Endocrine Organs: An Introduction to the Study of Internal Secretion, by Sir Edward A. Schäfer, LL.D., D.Sc., M.D., F.R.S.; 1916. London: Longmans, Green & Co.; Royal 8vo., pp. 150, with 104 illustrations. Price 10s. 6d. nett.

QUEENSLAND UNIVERSITY.

The election of ten members of the Senate of the Queensland University took place on June 30, 1916. There were 27 candidates, of whom 17 were retiring members seeking re-election. The re-elected members were:—

Sir Pope Alexander Cooper, K.C.M.G.
Mr. John Brownlie Henderson, Government Analyst.
Mr. Andrew Joseph Thynne, M.L.C.

The following were elected for the first time:—

Archbishop St. Clair George Alfred Donaldson.
Professor Alexander James Gibson (Professor Engineering).
Dr. Ernest Stamford Jackson.
Rev. Dr. Ernest North Merrington, M.A.
Professor John Lundie Michie.
Professor Henry James Priestley.
Dr. William Nathaniel Robertson.

Dr. Herschel Harris, who has been serving at the front for nearly two years, is back in Sydney, and has resumed practice at 215 Macquarie Street.

The Medical Journal of Australia.

SATURDAY, JULY 8, 1916.

Ill-Fed Prisoners of War.

A cable from London, appearing in the daily press, tells us that Sir Edward Grey, Secretary of State for Foreign Affairs, has informed Mr. J. W. Gerard, Ambassador from the United States of America to Germany, that he considers the allowance of ten ounces of meat weekly, supplemented by some sausages, is entirely inadequate in the case of men performing manual labour. This opinion has been stated in a letter acknowledging a report from the ambassador on the conditions prevalent in the prison camp at Treuen Breitzen. We infer from this protest that British prisoners are forced to do work involving muscular effort while receiving a meagre diet, deficient in proteins.

Physiological observations instruct us that 100 grams of proteins are consumed daily by most healthy adults, while amounts of 130 and 150 grams of proteins are not infrequent in the diet of those doing hard muscular work. Ten ounces of meat will contain 70 grams of proteins, yielding eleven grams of nitrogen. The well-fed British soldier will be accustomed to eat this amount of meat each day. It is obvious that ten ounces of meat weekly, even when supplemented by some sausages, will be much less than that usually eaten by the soldier. This deficiency of meat would be of less importance if other foods containing nitrogen are distributed in the required quantities. We fear, however, that this ration of meat serves as an example of the items in the dietetic scale of German prison camps.

It seems only too true that these unfortunate prisoners are forced to supply in part their food from their own bodies. Each day their bodily weight is diminished by a certain number of ounces, conditioned by the warmth of their clothing and surroundings and by their work. So many grams of protein derived from the less useful organs are autolysed for the benefit of the remaining tissues. The imposition of labour on famished persons accentuates the wasting of the body. Under these circumstances, the loss of weight per month may be measured in stones. Such a state of affairs cannot endure long. The body falls a prey to infective processes, which proceed apace in the starved tissues.

We may hope that the American Ambassador will draw the attention of the German authorities to the physiological effects and political consequences of such practices. Military necessity may demand the destruction of as many lives as possible, but the slow starvation of prisoners, already admitted to mercy, should be utterly repugnant to any community professing the tenets of Christianity.

ANTISEPTICS IN CEREBRO-SPINAL MENINGITIS.

The *a priori* argument that, because a disease is caused by a bacterium, the chemical substance which is capable of killing the bacterium *in vitro* should be efficacious in curing the disease if applied before the infection has become generalized is not accepted by the majority of observers. The conditions of life of bacteria growing in living tissues differ in many respects from the conditions of the same bacterium growing in an artificial culture medium. Moreover, it must be recognized that much of the chemical substance is usually claimed by the tissues and that there are mechanical and biological barriers which prevent the antiseptic from reaching the bacterium, even when definitely localized. Notwithstanding the recognition of these facts, antiseptics have been and are still used in the treatment of infections by optimistic practitioners. Long ago, lysol was in almost general use as a local antiseptic in cerebro-spinal meningitis. Later, it was applied within the dural sac, but the results were unsatisfactory and the practice was discontinued. Hydrogen peroxide and carbolic acid were recommended for the naso-pharynx, and the same may be said of a large number of other antiseptics. Protargol and urotropin were given into the dural sac, with the object of attacking the meningococci at their seat of action. In the last place, eucalyptus oil has been vaunted as a specific prophylactic. It thus appears that the idea of chemical antisepsis has been practised in two directions, first as a prophylactic or as a curative agent applied to the naso-pharynx in the

early stages of the disease, and in the second place as a standard form of treatment injected into the spinal theca in the developed disease. So firmly has the former method become implanted into the minds of medical practitioners that the public health authorities in many places have accepted nasopharyngeal disinfection as a reliable preventive, and the military authority has also acted on this assumption.

The power of lysol and of protargol, when applied into the spinal canal to destroy the meningococci, has been tested by Simon Flexner and Harold L. Amoss[1] and has been found wanting. They injected the antiseptics into the lumbar sac of young guinea-pigs and monkeys after infection with Weichselbaum's coccus and determined that neither drug was capable of delaying death. In fact, both accelerated it. On the other hand, their experiments go to prove that, in the laboratory animals used, the infection was controlled by intra-thecal injections of antiserum. Both lysol and protargol proved to exert an antileucotactic and an antiphagocytic action, and are powerful protoplasmic poisons. They claim that the curative action of the antiserum depends largely on its power of increasing the emigration of leucocytes, on the promotion of phagocytosis, on its agglutinating action on the cocci, and lastly on its capability of neutralizing endotoxin. In the case of urotropin, there is an additional bar to any curative action. Urotropin is not an antiseptic. In the presence of acid, it is dissociated and formaldehyde is liberated. In the cerebro-spinal fluid no liberation of formaldehyde takes place and consequently no destructive action of meningococci is exercised. It therefore can do no good and probably does harm, by interfering with the biological processes. The conclusion is therefore justified that chemical antisepsis should not be applied within the lumbar sac during an attack.

We have searched in vain for any acceptable evidence to prove that antiseptics applied to the naso-pharynx prevents the development of epidemic cerebro-spinal fever. If the meningococcus is the actual and only virus of the infection, this procedure is unlikely to act prophylactically, since experience with other bacteria has demonstrated that a local sterilization of the fauces and naso-pharynx is rarely (if ever) attainable by means of chemical antiseptics. It is comparatively easy to kill diphtheria bacilli *in vitro*, but neither carbolic acid, nor methylene blue, nor any other known chemical antiseptic can clear these micro-organisms out of the throat of a bacillus carrier. The antiseptic is probably claimed by the tissue protein long before all the bacteria are reached. The bacteria have an unwelcome trick of hiding in niches and nooks and of becoming coated over by mucus. The chemical antiseptic undoubtedly kills the readily-reached cocci, but it also damages the epithelium and the useful little scavengers, the leucocytes. Within a short time, the untouched bacteria make full use of the improved conditions of life and imbed themselves still more firmly in their unwilling hosts. Should Hort's proposition prove to be correct that the meningococcus is but the harmless phase of a complex organism, which causes the meningitis in its ultra-microscopic state, still less could be expected from an attempt to disinfect the naso-pharynx and thus prevent the disease from developing.

[1] *Journal of Experimental Medicine*, May 1, 1916.

FIFTH YEAR STUDENTS AS ASSISTANTS.

The Council of the Victorian Branch of the British Medical Association wishes to draw attention to the grave dangers inherent in the practice of appointing fifth year medical students to the positions of assistants or locum tenentes. The Council recognize the difficulty which medical practitioners are experiencing in securing the services of fully qualified men at the present time. Notwithstanding this difficulty, they suggest to members of the Victorian Branch that they should apply to the Council before appointing a senior student to these positions.

It will be within the recollection of every practitioner that the General Medical Council of Great Britain circularized the whole profession in the United Kingdom on this subject. The General Medical Council determined, a few years ago, that it was not in the public interest that the lives of human beings should be entrusted to unqualified practitioners, and they warned medical practitioners not to employ in the capacity of assistant or locum tenens anyone who had not secured registration. The warning included a notice that anyone who disregarded this advice would be required to answer the charge of "covering." The conditions created by the war, no doubt, alter many aspects of civil life, but in so serious a matter as the well-being of the community it must be shown that very extreme necessity exists before so salutary a rule should be waived. Moreover, it is essential that every senior student should be encouraged to concentrate all

his energies on his studies, in order that he may be available to fulfil his duty to the Empire as soon as the Faculty has determined that his knowledge suffices. Ways and means will probably be found to provide the civil population with competent medical attendants until victory liberates those of the medical profession who are serving with the forces abroad. The medical profession in the majority of the Australian States is being organized for the present emergency. The Council of the Victorian Branch will, we feel convinced, find expedients to avoid this dangerous, retrograde step.

THE BABY BONUSES.

The Commissioner of Maternity Allowances issued on May 9, 1916, the returns of the claims granted and rejected up to the end of June, 1915. The figures are full of interest. In the first place, 139,495 claims for the £5 bonus were made in the Commonwealth during the year ending June 30, 1915. Of these, 640 were rejected. The grounds for rejection were that the children were not viable, that the allowance was not claimed within three months of the births, that the mothers were Asiatics or aboriginal natives of Australia, Papua or the Islands of the Pacific, that the children were born outside of Australia, that the mothers were not inhabitants or intending inhabitants of the Commonwealth, that the claims were not equitable, that a claim had been paid at a previous date, and that the claims had not been completed. These reasons will be regarded as satisfactory. It is noteworthy that the number of rejected claims represents 0.46% of the total. Either the number of fraudulent persons is small in proportion to the population, or the Federal authority is easily gulled.

There appears to be something which requires some explanation in regard to the figures of claims found to be good and paid. The following table is given:—

Cases in which Allowances were Paid.

	Mothers attended by doctors.	Mothers not attended by doctors.	Total.
New South Wales ..	31,719 ..	22,767 ..	54,486
Victoria	27,178 ..	9,101 ..	36,279
Queensland..	10,009 ..	10,196 ..	20,205
South Australia ..	10,077 ..	2,493 ..	12,570
Northern Territory ..	20 ..	11 ..	31
Western Australia ..	6,106 ..	3,206 ..	9,312
Tasmania	3,258 ..	2,714 ..	5,972
Totals	88,367 ..	50,488 ..	138,855

It is unfortunate that the returns of the number of births throughout the Commonwealth for the financial year 1914-1915 are not yet available. It is, however, extremely significant that the number of births registered in the whole of Australia during the year 1913 was 135,714. The number of claims paid in the twelve months ending June 30, 1914, was 134,998. In New South Wales there were 54,769 claims, of which 54,486 were paid. During the same period there were 54,715 babies born in the State. This means that the claims represented 54 in excess of the number of births, or practically one per thousand, while the claims paid were 229 less numerous than the births. In other words, bonuses were paid in respect of 99.58% of all the babies born in New South Wales. The position in Victoria appears to be still more remarkable. According to the returns published by the Government Statistician each quarter, the number of births in the twelve months ending June 30, 1915, was 35,994. The number of claims for bonuses was 36,389. The number of claims paid was 36,279, which represents 100.79% of the total births. It will be interesting to compare the figures for the Commonwealth with the official figures of the maternity bonuses paid.

While it seems that the vast proportion of mothers and fathers are not too proud to grab the £5 which a foolish Government distributes lavishly and without nice discrimination, the taxpayer may be interested to learn what the total amount thus spent comes to. During the year under consideration, £694,275 was paid in the allowances and £12,900 in administration. Since the inception of this bonus system on October 10, 1913, £1,781,640 was paid in claims and £29,728 in administration, making a grand total of £1,811,368. Salaries represent approximately one-third of the cost of administration, while printing, fees for registrars, travelling, office requisites and "miscellaneous" come to nearly one-half. The cost of administration represents 1.64% of the total expenditure. There is one item which attracts attention. The sum of £50 was paid as rewards for securing convictions in connexion with maternity allowances frauds. Perhaps the reduction of salaries and an increase in the rate for rewards might result in a general saving of public money.

CAMP HYGIENE.

On March 25, 1916, we called attention to an unwholesome custom obtaining in some of the military camps in connexion with the serving out of tea and coffee. It is with much gratification that we are able to record that the warning giving at that time was listened to and that the practice to which we took exception has been discontinued. Tea and coffee is now served from a dixie by means of a ladle and soldiers are no longer permitted to dip their cups into the fluid. We understand that an officer stands by during the time of distribution of the beverages and that impetuosity on the part of a thirsty soul is visited by stern reprisal. It is unnecessary again to explain the dangers attendant on the dipping of cups into a fluid intended for a large number of men. Attention to apparently small details of cleanliness contribute to the health of the troops, and, in many instances, is just as important as the carrying out of the more obvious hygienic measures. Apart from the risk attached to the practice, it was a dirty and unpleasant custom and on this ground alone should never have been tolerated.

SMALL-POX IN NEW SOUTH WALES.

We learn from the Department of Public Health, New South Wales, that five cases of variola have been notified in the State during the week ending July 2, 1916. There were two cases at Darlinghurst (Sydney), one at Parramatta, one at Kensington and one at Tamworth.

Abstracts from Current Medical Literature.

MEDICINE.

(8) Peritoneal Complication of Typhoid and Paratyphoid.

Henry Bourges discusses the recent experience at *l'Hôpital Maritime de Brest* in regard to certain complications of enteric fever and paratyphoid fever (*Bullet. et Mémoires, Soc. de Méd. de Paris*, March 10, 1916). In 470 cases of enteric fever definite peritonitis was noted 20 times, and on three occasions there was a temporary peritoneal reaction. The majority of the peritonitis attacks supervened in the third week of illness. Four took place in the second week, six in the third or fourth week, and two during convalescence. The clinical signs were distension and meteorism, abdominal pain, contraction of the muscles of the abdominal wall, and agonized expression of face and a rapid and soft pulse. In seven cases marked fever was present, in five others there was some elevation of temperature, while in eight there was no febrile reaction at all. Vomiting occurred in 11 cases, and hiccough in six cases. Constipation was noted in three-quarters of the cases, and retention of urine in one-quarter. The hepatic dulness was diminished 11 times. In six cases the peritonitis symptoms were preceded by hæmorrhage. The signs developed within 24 hours in three cases, within two to four days in 13 cases, and between five and ten days in four cases. In all cases save two perforation was found post-mortem. In 12 cases it was situated in the ileum. One perforation was found in five cases, two in four, three in two, four in two, and seven in one. The author has had the impression that peritonitis supervenes more frequently, and is of a more severe type under conditions of warfare than in ordinary practice. He ascribes this to the method of evacuation of the typhoid patients, the majority of whom arrive at the hospital after a long and very uncomfortable train or ambulance journey. During the transport the patients are not properly fed. Another striking characteristic of these cases has been the absence of definite signs indicating the immediate occurrence of perforation. In three cases the presence of intestinal worms was noted during the course of the fever. One patient passed six large *Ascarides lumbricoides*, another passed a *Tænia mediocanellata*, while a third had two *Trichocephalus dispar* worms firmly attached to the mucous membrane of the appendix. He expresses the opinion that the presence of intestinal worms exerts an unfavourable influence on the course of enteric fever. In regard to paratyphoid, he noted three complications, involving the peritoneum in 55 cases. In two there was generalized peritonitis terminating fatally, while in the third there was a transitory peritoneal reaction. He gives some details of the pathological changes found in the two fatal cases.

(9) Epilepsy.

C. A. L. Reed came to the conclusion in 1914 that constipation was an essential factor in the causation of epilepsy (*Journ. Amer. Med. Assoc.*, May 20, 1916). Further consideration has convinced him that this connecting link consisted in some form of infection. He has made investigations of all his epileptic patients in hospital and in a nursing home. In addition, he has examined all his patients affected with constipation, including non-epileptics. In each case from 1 to 2.5 c.cm. of blood was taken from a vein in a forearm and was examined bacteriologically. No figures are given, but he makes the statement that a sporulating bacillus was obtained in every case from the blood of epileptics, and that it was never obtained from the blood of non-epileptics. Examination was also made of the contents of the colon and of the vermiform appendix removed. He found that there was equal uniformity in this investigation, inasmuch as the contents of the caecum and of the vermiform appendix and the lymphatic glands removed from epileptics invariably harboured the bacillus, while those removed from non-epileptics never did so. He describes the cultural and morphological characteristics of the organism, which he designates the *Bacillus epilepticus*. In investigating the pathogenesis of this organism he injected 2 c.cm. of a suspension of a culture in saline solution into the vein of a rabbit's ear. Twenty-four hours later a similar but smaller injection was made. On the second day the rabbit appeared confused, and on the third day it had a convulsion, followed by stupor. Other convulsions followed. The attack was ushered in by a peculiar sound. There was complete unconsciousness; the eyes were staring, the head turned to one side, the muscles of the neck twitched and there were alternate contraction and extension of all four extremities. The bacillus was recovered from the blood on the fourth day. On the fifth day the rabbit died in *status epilepticus*. The same results were obtained on repetition of the experiment. After intraperitoneal injection, unconsciousness supervened, and the animal died in a few hours. There was no inflammation of the peritoneum. Epilepsy was produced in a rabbit which licked the blood from the ear of another animal after injection. The author concludes that the bacillus epilepticus is the specific cause of epilepsy; that it invades the system through the alimentary canal, and that its chief focus is in the caecum. As a result of its spore formation it is able to perpetuate itself indefinitely both in the caecum and in the blood. In a small number of instances the bacillus seems to be overcome by the natural immunity when there is no focus in the intestine.

(10) Acute Hodgkin's Disease.

T. H. Whittington (*Quarterly Journ. of Med.*, January, 1916) describes an obscure case of acute Hodgkin's disease with implication of the internal gland and relapsing fever. The patient was admitted to a base hospital on November 23 with a diagnosis of frostbite. Two hours after admission he complained of abdominal pain. There was fever, an increased pulse-rate and some vomiting. On the following day the abdomen was tender, the tongue was dry, with a brown fur, and there was a leucopenia. Three days later he was transferred to the Infectious Diseases Hospital, with a diagnosis of enteric fever. There was fever, muttering delirium, a soft, dicrotic pulse, tenderness in the left hypochondrium and left lumbar region and dulness in these areas. No spots were seen, and the serum did not agglutinate typhoid or paratyphoid bacilli. In the differential diagnosis acute peritonitis, recurrent appendicitis, enteric fever, and acute lymphatic leucæmia were considered. As the abdominal distension passed off, the spleen was felt to be enlarged and tender. The temperature came down between December 2 and 5, and on December 31 he was given a little solid food. Following this, fever returned, and there was listlessness, headache, dry furred tongue, a tumid abdomen, enlargement of the spleen, loose motions and a soft and compressible pulse. The blood culture and agglutination tests were negative. A blood count showed 3,000 leucocytes and 3,600,000 red cells per c.mm. The differential white count showed 80% polymorphonuclears, 15% lymphocytes and 5% large mononuclears. No eosinophils or nucleated red cells were seen. At this time the diagnosis was between a typhoid relapse, splenic anæmia and tubercular peritonitis. Hodgkin's disease, Malta fever, kala-azar, congenital syphilis and septicæmia were also thought of. The fever disappeared by January 20, and the spleen became smaller. On January 29 fever reappeared, and the abdomen became markedly distended. The patient became rapidly worse, and early in February developed jaundice and a cutaneous mottling of a purpuric nature. He died on February 13. Post-mortem it was found that the peritoneum was normal; the spleen was at least three times the normal size. Yellowish-white spots were scattered over its surface and throughout its substance. There was a mass of enlarged retro-peritoneal glands extending from the level of the left renal artery to the bifurcation of the aorta. The glands showed a mottled appearance, due to hæmorrhagic areas. The portal, thoracic and subclavian glands, as well as the spleen and retro-peritoneal glands had the typical histological appearances of Hodgkin's disease.

(11) Determination of Blood Pressure.

J. J. Rowan considers that blood-pressure readings, as often made, are worthless, since attention is only paid

to the systolic pressure (*Journ. Amer. Med. Association*, March, 1916). He believes that the readings should be made with the aid of the stethoscope, and that the systolic and diastolic pressures should be estimated. From these the pressure pulse can be calculated by subtraction. He finds that the readings are 10 to 30 mm. higher when taken over the sleeve of a garment than when they are taken on the bare arm. He favours several estimations to diminish the effect of such conditions as emotions, exercise, diet and medication. He has made some 500 recorded findings from a series of estimations made during two years. He lays much stress on diastolic pressure, which he considers useful in separating vasomotor disturbances of nervous origin from those due to organic changes in the vessels. He has found that the diastolic pressure remains about 85 mm. Hg. with advancing years, while the systolic pressure rises about 15 mm. with each decade from thirty onwards.

NEUROLOGY.

(12) Neurological Reports from the French Army.

In a double number of the *Revue Neurologique* (November-December, 1915) reports are published showing France's method of dealing with troops disabled by wounds and disorders of the nervous system. A series of *Services Neurologiques* and *Services Neuro-Psychiatriques* have been established, sixteen in all, some in Paris, some in the provinces and some in touch with the fighting line. Each *Service* accommodates from 200 to 300 patients, and is provided with means for treatment by electricity, massage, hot air, light baths, X-rays, etc., and to each *Service* an eminent neurologist—the list includes the names of Déjérine, Marie, Babinski, Souques, Meige, Grasset, and Sicard—and a staff of skilled assistants is allotted. The report of these observers form the basis of this resumé. There are three *Services* next the firing line; these act as reception houses and sorting centres. They retain all who are too ill to transfer and all who give promise of early recovery, passing on all serious cases. The advantages of this early examination by competent neurologists is obvious. In particular, the host of sufferers from functional disorders—shell-shock so-called, deafness, mutism, hysteria, proteiform neuroses from gas-poisoning, physical and psychical asthenia, malingerers and exaggerators—are apt to be spoilt by sympathy and to be lost in base hospitals and are held up. Many are cured by appropriate treatment, assisted by severe discipline, before they have time to become introspective. Cerebral concussion, indicated by apathy, impairment of memory and attention, headache, vertigo, asthenia and tremor, and spinal concussion, indicated by (1) symptoms suggesting hæmotomyelia, (2) flexion of the trunk (called by Souques "*Camptocormie*") associated with pain but without cutaneous anæsthesia or bladder trouble, (3) the flexed attitude alone, are fully described; and the importance of lumbar puncture as a means of distinguishing between the real and the feigned conditions is emphasized. In genuine cases not only does lumbar puncture sometimes afford relief, but examination of the fluid invariably shows hyperalbuminosis and lymphocytosis. Marie, reporting on injuries of the brain, of which he has seen 300 in every month, points out the usefulness of measuring the fields of vision in each case. By doing this he has often found evidence of previously unsuspected foreign bodies. The fundi also should be examined systematically. Babinski, in cases of cranial wounds, apparently cured as regards the local effects, but showing persistent headache and vertigo, has found papilloedema. In such cases lumbar puncture has given relief. It is also noted that cases of aphasia, both functional and organic, when apparently cured, may present sequelæ, such as impairment of memory and perception, which unfit them for further service. Concerning lesions of the spinal cord, Marie and others show that clinically the injury is usually localized higher than by X-ray examination, the difference is accounted for by ascending myelitis. It has also been found that *quoad vitam*, a cervical lesion, is more favourable than one in any other region. In lesions of the cauda equina, operation is not advisable; Claude reports six cases with initial paraplegia; all these patients were walking again in a few months' time, without special treatment. It is interesting to note that, for spinal cases, a special staff is told off to attend to the prevention of bed-sores. The frequency of wounds of peripheral nerves is alluded to as one of the surprises of the war. On the vexed question of when to operate, it is unanimously agreed that an injured nerve should never be interfered with while the surface wounds are open and while there is suppuration. Some observers advise further postponement of operation until three months have elapsed. They count on the risk of increasing the damage. The majority, however, favour exploration; they point to hundreds of cases in which exploration has not aggravated the paralysis, and they maintain that it is impossible clinically to diagnose the nature of the lesion, whether severance, or partial severance, or compression, or contusion. Even electrical examination furnishes presumption only. Gosset, surgeon to the *Salpetrière*, sums up by writing that, "in every case, excepting where spontaneous regeneration is evidently occurring, exploratory operation is justifiable." This establishes the diagnosis and saves time in treatment. An exception is made in wounds of the brachial plexus; these are best left alone. The nerve injury in the majority of cases is compression or cicatricial adhesion. Complete severance is uncommon. It is also manifest from the results that exploratory operation for the removal of compression and adhesions is a sound proceeding, notwithstanding Leri's statement that 70% or 80% recover without operation, and that in freeing a nerve one may replace a cicatrix of a few centimetres by one 20 to 25 centimetres long. Concerning technique, surgeons who have wide special experience (Gosset, Sicard, etc.) emphasize the importance of handling the nerves with the greatest possible care and of protecting them during healing by envelopes of muscle, aponeurosis or exogenous sterilized membrane. In a case of partial severance they are scrupulously careful to preserve the undivided bundles. Some go as far as to refuse to suture or touch a partially divided nerve. The results from secondary suture after complete section are disappointing. Where the two ends have been widely separated and a piece of another nerve has been interposed, or where large neuromata have been trimmed, no amelioration has been noticed, and even in favourable cases nothing beyond improvement has been reported, but it is indicated that a sufficiency of time for final judgement has not yet elapsed. Another lesson of the war is that different nerves react to injury and to treatment in different ways. Thus, in injuries of the musculo-spiral and external popliteal nerves, motor trouble is dominant, and of all nerves these react best to treatment. In injuries of the median and internal popliteal nerves, pain and vaso-motor changes, and in injuries of the ulnar nerve, contracture and muscular atrophy are dominant, and all these nerves are unfavourable for operation and treatment.

(13) Localization of Motor Bundles in Peripheral Nerves.

Marie, Gosset and Meige (*Acad. de Méd.*, Paris, December, 1915), by faradic excitation of nerves exposed during operations, showed that the motor bundles occupied definite and constant anatomical positions, an observation which is in accordance with that of Stoffel, made by another method, *viz.*, special dissection. The procedure demanded care. The nerve trunk having been exposed, encircling glass protectors were put in position above and below a small part left bare for stimulation. Then the electrode, beginning with a slight current, was applied without pressure successively to each part of the circumference. In the median nerve they found four motor bundles, one for the pronators situated anteroexternally, one for thenar muscles situated posteriorly, one for carpal flexors and one for digital flexors situated together postero-internally. In like manner they detailed the position of motor bundles in the ulnar, radial and sciatic nerves, and in the case of all these nerves they succeeded in producing isolated contractions of the supplied muscles. While harmless to the patient, the experiment was useful to the surgeon, both in showing the state of conductivity of the nerve and in guiding him to correct repair. In some instances it demonstrated injury to a nerve at a level distant from the seat of operation, thus removing what would have been a source of future misconception. Such knowledge is also of value in contemplated neuro-anastomosis for local paralyses, as in infantile paralysis.

British Medical Association News.

SCIENTIFIC.

At a clinical meeting of the New South Wales Branch, held on May 12, 1916 (see *The Medical Journal of Australia*, May 27, 1916, p. 440), Dr. C. E. Corlette recorded a case of Jackson's parieto-colic membrane producing symptoms. The report of this case will be found on page 23.

Dr. William T. Chenhall considered Jackson's membrane was a developmental error, although he acknowledged that occasionally it was inflammatory. He did not agree with Treves in his conception of the pathology of this condition. He regarded it as more frequent than it was usually supposed to be.

Dr. F. P. Sandes held that Jackson's membrane was of a developmental origin. In some cases he had been perplexed as to what was best to do in these cases. In certain cases it would appear as if it were wiser to divide the membrane, while in others it was better to loop it up. Good results appeared to follow both methods of treatment.

Dr. John Flynn did not think that it was yet wise to be as dogmatic as some of the previous speakers. While he admitted that these bands might in some cases be of developmental origin, and though there had been very elaborate contributions favouring this side of the question, he had to confess that they had never carried conviction with him. Few had supported the inflammatory origin, and yet he held that a good deal could be said in its favour. They knew that bacteria could pass from the intestine into the peritoneal cavity and excite a plastic adhesion locally. In this plastic exudate a congenial matrix was found, in which connective tissue might progress along the lines of stress and strain. More than a quarter of a century ago Treves had written: "The most common cause of the peritoneal false ligament is peri-typhilitis, and it is needless to state that, of all forms of limited peritonitis, this is the most frequently met with." Dr. Flynn thought that the developmental origin of Jackson's membrane might be compared with the development of gossip in ordinary life. The first persons suggested that it might be so; the second person stated that it was so. The most judicious attitude towards the question at present was that of suspended judgement.

Dr. C. E. Corlette adhered to his opinion that the balance of evidence was in favour of Jackson's membrane being a fœtal remnant. He was not inclined to the view that in his case the membrane had the appearance of an inflammatory product. He supposed that in these cases difference of opinion must be allowed for.

Dr. D. Kelly communicated a case of calcified glands, which had been mistaken for ureteral calculi (see p. 23).

Dr. C. Ayres was greatly interested in Dr. Kelly's case. He thought that caution should be exercised in arriving at a diagnosis. Calcified glands would throw the same shadow on the plate as a calculus. He referred to the chemical examination of the urine as an aid to diagnosis. The fact that no blood had been found was of some importance.

Dr. W. T. Chenhall wished to call the attention of radiographers to the fact that the calcified glands were commonly found in the pelvis. He thought that the microscopical tests for blood in the urine and the symptom of pain in the testis radiating down the thigh were of diagnostic importance.

Dr. F. P. Sandes thought that it was quite easy to exclude error in these cases. He never operated in a case of this kind until the patient had been cystoscoped. He recorded a case in which a large stone was localized by radiography in the left ureter. The symptoms were all right-sided. On passing a ureteral catheter, a stone was discovered in the right ureter. This was confirmed by operation.

Dr. Sinclair Gillies held that it was not uncommon for the urine to be free from blood in cases of ureteral calculus.

In response to Dr. Kelly's repeated request, Dr. John Flynn hazarded an explanation of the increased quantity of bile seen on the dressing during the night, as contrasted with that seen during the day. Bile was both an excretion and a secretion. As an excretion, it was produced continuously, but as a secretion it was only required intermittently. While it was formed more or less continuously, it only entered the duodenum periodically during the time of digestion. During the intervening period, it was prevented from entering the duodenum apparently by the fact that the opening of the common duct was closed by a sphincter. The secretion therefore backed up into the gall bladder. No bile entered the duodenum as long as the stomach was empty. During the long course of the night very little bile would enter the duodenum, and its pressure would be *pro tanto* raised. When a meal was taken, the ejection of chyme into the duodenum was followed by an injection of bile. It would seem that each gush of chyme into the duodenum excited not only a contraction of the gall bladder, but also an inhibition of the sphincter closing the opening into the intestine. Advantage of this fact was taken in surgical practice. In operations on the gall-bladder, if the fistulous opening failed to close and there was a constant oozing of bile, frequent feeding of the patient facilitated the permanent closure of the fistula, apparently because the sphincter guarding the ampulla of Vater was kept inhibited and the pressure on the gall bladder was lessened. He suggested to Dr. Kelly to test the validity of the explanations in his next gall bladder patient, by ordering the night nurse to give a few feeds during the night.

Dr. Kelly thought that when the ureter was not completely occluded by a stone, blood was usually found in the urine. A complete occlusion, however, must be very rare. In reply to Dr. Sandes, he explained that he did not use the cystoscope in his case, partly because the patient was extremely ill and partly because there was no electric current to illuminate the instrument. In conclusion, he stated that Dr. Flynn's explanation, for which he thanked him, had not satisfied him.

Dr. J. J. Woodburn has been nominated for election to the New South Wales Branch.

ROYAL SOCIETY OF NEW SOUTH WALES.

A meeting of the Section of Public Health and Kindred Sciences was held on June 13, 1916, at the Society's House, Sydney. Sir Thomas Anderson Stuart, M.D., occupied the chair.

Composition of Alveolar Air.

Dr. H. S. H. Wardlaw read a paper on the effect of holding the breath on the composition of alveolar air. He said that Haldane and Priestley had shown that the air in the deeper parts of the lungs contained a remarkably constant percentage of carbon dioxide during normal light respiration. It was commonly held that the air in the tubular parts of the pulmonary apparatus took no part in the gaseous exchange with the blood. These parts of the air-passages were therefore known as the "dead space." He had examined the effect of holding the breath on the amount of carbon dioxide in the last portion of air expired. When a sufficient number of experiments had been performed he had plotted his results in a curve for the averaged results of the percentage of carbon dioxide after holding the breath a certain number of seconds, the abscissæ representing time and the ordinates percentages. The curve revealed three stages. In the first stage, the curve rose. He suggested that this was due to the accumulation of carbon dioxide in the air within the alveoli as increasing quantities of venous blood passed through the pulmonary capillaries and gave off part of the carbonic acid gas. In the second stage, the curve was practically level. He surmised that this was due to the tension of carbon dioxide in the alveolar air being equal to the partial pressure of the same gas in the venous blood. The blood was thus not purified from carbon dioxide. The third stage, which commenced some twelve seconds later, showed a rise in the curve. He believed that this represented the return of blood which had not given up all its available carbon dioxide on its first passage through the lungs. This blood was charged with carbon dioxide to a higher tension than the venous blood of an individual breathing in the normal way. He had studied

this effect on two persons. While the curves varied in details, they agreed in showing the three principal phases.

Dr. T. Cooksey doubted whether the amount of carbon dioxide in the air of the alveoli could be determined so simply. He would emphasize the fact that the air in the lungs was subject to continual changes in pressure. The alterations in pressure which occurred during each respiration must greatly affect the tension of carbon dioxide in the parts of the lungs in the immediate neighbourhood of the pulmonary capillaries.

Professor J. Douglas Stewart mentioned certain investigations with chlorine which suggested that the alveolar air might not be of constant composition in the different parts of the lungs. The bronchial tubes possessed muscular walls which could regulate the flow of air into various regions of the lungs.

Sir Thomas Anderson Stuart said that the question was a difficult one. The older experiments with a catheter had failed to give a conclusive result, as the air imprisoned in the enclosed area of the lungs diminished in volume. He thought that the explanation of the flat portion of the curve was a feasible one. He was of opinion that the experiment shed some light on the diffusion and vital theories of the interchange of gases. If the vital theory of the secretion of gases was correct, there was no reason why the secretive action should cease at the flat part of the curve.

Deterioration of Condensed Milk.

Dr. T. Cooksey read some notes on the deterioration of condensed milk. He said the article itself and its mode of preparation should be above suspicion, as condensed milk was frequently used as a food for young infants. His samples showed four kinds of changes appreciable by the senses. (1) The tins were "blown." The contents were not discoloured but had clotted. The taste was sweet and not unpleasant. The acidity was about 0.4%. Yeasts were present. (2) The tin was not "blown." Clots of a brown colour were present. The acidity was increased to 0.7%. The odour suggested rancidity. (3) The tins were not "blown." The contents were viscid and discoloured. A characteristic odour was observed. The taste was cheesy. The acidity was about 0.4%. Coliform bacilli and *bacilli subtiles* were found. (4) The tins were not "blown." There was no discolouration, but the consistency was increased. The taste was acid, but not unpleasant. No odour was noted. The acidity was 0.5%. Staphylococci, *bacilli subtiles* and yeasts could be separated by cultivation. He viewed with suspicion all tins with an acidity above 0.3%.

Dr. Greig Smith had investigated tins similar to those of the second group. He had isolated a micrococcus which occurred in nodules. He had tried to infect tins, but had not been successful. The micrococci were present in milk in which no nodules were observed.

Dr. J. B. Cleland thought that the "blown" tins were consequent on the action of micro-organisms. The cheesy tins might be caused by chemical changes.

Dr. H. S. H. Wardlaw pointed out that a cheesy deposit could be obtained from milk by spinning in a centrifuge. When ordinary milk was kept under sterile conditions for long periods it became cheesy.

Dr. Cooksey replied that the trouble occurred in batches. The difficulties with local milk were due to the high climatic temperature. In consequence, milk of high acidity was subjected to condensation. The evils resulted from incipient souring before the milk was treated for manufacturing into condensed milk.

THE BRITISH AND FOREIGN SAILORS' SOCIETY.

We have been asked to support the appeal which is being made on behalf of British and foreign sailors by the Committee of this Society. The annual meeting took place at the Mansion House, London, on May 8, 1916, when the public was asked to contribute liberally toward the fund. The Society is both international and interdenominational, and its 98 years' activity has earned for it a recognition of all those who are interested in or associated with maritime life. Donations should be sent to the Honorary Secretary, British and Foreign Sailor's Society, Hanover Lodge, Regent's Park, London, N.W.

Public Health.

THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending June 24, 1916:—

	Metropolitan Combined Districts. Cs.	Dths.	Hunter River Combined Districts. Cs.	Dths.	Remainder of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	7	1	1	0	13	0	21	1
Scarlatina	45	0	1	0	61	0	107	0
Diphtheria	52	4	4	0	67	0	123	4
C'bro-Sp'l Menin.	3	2	0	0	3	0	6	2
Infantile Paralysis	1	0	0	0	0	0	1	0
Pul. Tuberculosis	25	12	0	0	†		25	12

† Notifiable only in the Metropolitan and Hunter River Districts.

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending June 25, 1916:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Totals. Cs.	Dths.
Diphtheria	95	4	43	3	138	7
Scarlatina	19	0	32	0	51	0
Enteric Fever	0	0	7	1	7	1
Pulmonary Tuberculosis	26	6	14	8	40	14
C'bro-Spinal Meningitis	16	0	10	0	36	0

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending June 24, 1916:—

Disease.	No. of Cases.
Varicella	7
Enteric Fever	7
Diphtheria	37
Pulmonary Tuberculosis	3
Dysentery	1
Scarlatina	8
Malaria	1
Cerebro-Spinal Meningitis	1

THE RELEASE OF CHIDLEY.

The Chief Secretary of New South Wales undertook, on June 27, 1916, to release W. J. Chidley from the Hospital for the Insane under certain conditions. It will be remembered that, after a period of detention in the Hospital, Mr. Justice Harvey determined, in a measured judgement, delivered on June 16, 1916, that Chidley was suffering from chronic systematized delusional insanity, and ordered his detention in the hospital. Mr. Black announced that he would require substantial bonds from two responsible gentlemen as a guarantee that Chidley would refrain from lecturing to audiences comprising of children or youths of immature age and from sending circulars and other documents to women. It is stated that Chidley has not yet been released.

Naval and Military.

It is announced in the 181st casualty list, which was issued on July 2, 1916, that Captain T. A. Grieves is ill in hospital. The 182nd list does not contain the names of any medical men.

The following has appeared in the *Commonwealth of Australia Gazette*, No. 76, under date of June 29, 1916:—

Grant of Honorary Rank.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the undermentioned who have served in the Australian Imperial Force as commissioned officers being appointed to Australian Army Medical Corps Reserve, and granted honorary rank

equivalent to that held by them in the Australian Imperial Force, as follows:—

Officers who, on appointment for active service outside Australia, were not serving in the Australian Military Forces.

1st Military District.

To be Honorary Major—
H. C. Garde, late Major, Australian Imperial Force. Dated 1st May, 1915.

To be Honorary Captain—
T. J. Henry, late Captain, Australian Imperial Force. Dated 1st September, 1915.

2nd Military District.

To be Honorary Lieutenant-Colonel—
S. Jamieson, late Lieutenant-Colonel, Australian Imperial Force. Dated 1st May, 1915.
R. G. Craig, late Lieutenant-Colonel, Australian Imperial Force. Dated 15th July, 1915.

To be Honorary Majors—
A. W. Campbell, late Major, Australian Imperial Force. Dated 14th November, 1914.
H. Harris, late Major, Australian Imperial Force. Dated 1st May, 1915.

To be Honorary Captains—
J. P. Hastings, late Captain, Australian Imperial Force. Dated 16th August, 1915.
E. W. F. Dolman, late Captain, Australian Imperial Force. Dated 20th September, 1915.
H. C. C. Shaw, late Captain, Australian Imperial Force. Dated 18th January, 1916.
J. H. Cahill and A. F. Sinclair, late Captains, Australian Imperial Force. Dated 1st March, 1916.

3rd Military District.

To be Honorary Major—
W. K. Hughes, late Major, Australian Imperial Force. Dated 1st May, 1915.

To be Honorary Captains—
T. G. S. Leary, late Captain, Australian Imperial Force. Dated 1st May, 1915.
T. B. Lewers, late Captain, Australian Imperial Force. Dated 8th May, 1915.
E. V. R. Huckell, late Captain, Australian Imperial Force. Dated 12th June, 1915.
D. G. Robertson, late Captain, Australian Imperial Force. Dated 14th July, 1915.
J. P. M. Black, late Captain, Australian Imperial Force. Dated 23rd September, 1915.
W. Macansh, late Captain, Australian Imperial Force. Dated 5th January, 1916.

4th Military District.

To be Honorary Lieutenant-Colonel—
A. M. Cudmore, late Lieutenant-Colonel, Australian Imperial Force. Dated 1st May, 1915.

To be Honorary Major—
B. Smeaton, late Major, Australian Imperial Force. Dated 14th July, 1915.

To be Honorary Captains—
H. Gilbert, late Captain, Australian Imperial Force. Dated 2nd June, 1915.
C. Magarey, late Captain, Australian Imperial Force. Dated 5th January, 1916.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the undermentioned officers, who have served in the Australian Imperial Force as commissioned officers, having the rank held by them in the Australian Imperial Force confirmed as honorary rank in the Australian Military Forces, as follows:—

Officers who, on appointment for service outside Australia, were serving, and are now serving, in the Australian Military Forces.

2nd Military District.

To be Honorary Colonel—
Lieutenant-Colonel the Honourable J. L. Beeston, C.M.G., V.D., Australian Army Medical Corps. Dated 2nd October, 1914.

To be Honorary Lieutenant-Colonel—
Major the Honourable J. B. Nash, V.D., Reserve of Officers. Dated 19th October, 1914.

To be Honorary Majors—
Captain A. Y. Fullerton and Captain A. J. Aspinall, Australian Army Medical Corps. Dated 20th August, 1914.
Captain H. J. Clayton, Australian Army Medical Corps. Dated 2nd October, 1914.

3rd Military District.

To be Honorary Majors—
Captain T. P. Dunhill and Captain B. T. Zwar, Australian Army Medical Corps. Dated 19th October, 1914.

Divisional Staffs.

Anzac Mounted Division.

Lieutenant-Colonel R. M. Downes, from 3rd Light Horse Field Ambulance, to be Assistant Director Medical Services (temporarily). Dated 15th March, 1916.

Ras-el-tin Convalescent Depôt.

Captain V. Benjafield to be Senior Medical Officer, and is granted the temporary rank of Major whilst so employed. Dated 12th March, 1916.

THE SYDNEY UNIVERSITY JOURNAL.

"Volume XL., Part I., June, 1916," is the beginning of a new era in the history of the Journal of the Medical Society of the Sydney University. Early in the year, Dr. H. Schlink was appointed Editor, and preparations were made for several changes in the appearance and contents of the publication. We congratulate the Medical Society and its new Editor on the first issue in the new order of things. The get-up is good, the illustrations are well produced, the paper (a matter of concern to all interested in the production of a journal, when its cost has increased about 150% and the supplies are getting more and more scarce each week!) is excellent and the reading matter appropriate. The issue contains some editorial notes and articles written in a vein which will interest the members. Several serious articles, of not too dry a type, relieve the lighter parts. We note with regret that there is a complete absence of science or matter of educational value to students. A few pages should be devoted to an article written by one of the teachers on some medical or surgical subject.

There is evidence of new life in the journal, and we venture to prophesy an increase of vigour and utility for the *Sydney University Medical Journal*, or perhaps we should say for the "Ἰατρος."

Special Correspondence.

(By Our London Correspondent.)

LONDON LETTER.

The Year's Work at University College.

The annual report, issued towards the end of March, on the work of University College shows that, whereas the total number of students in the session 1913-14 was 2,206, in the session 1914-15, owing to the war, the total was 1,416, being a decrease of 790, or, omitting refugee students, a decrease of 913. Of the total who began work in the session 1914-15, no fewer than 335 withdrew in the course of the session to join the naval or military forces, and 43 other students withdrew to undertake some other recognized form of national service connected with the war. The financial effect in the course of the two sessions is that the fee revenue has declined by upwards of £24,000. The position has been to some extent relieved by a Treasury grant of £10,500 for the two sessions, 1914-15 and 1915-16. Economies have been introduced to the extent of about £9,000; the anticipated shortage at the end of the current session will be £3,500, towards raising which friends of the College are asked to help. A large number of war honours and appointments have been obtained by members of the College. They include the clasp to the Victoria Cross gained by Captain Martin-Leake. The Companionship of the Order of the Bath has been conferred upon four members of the College, the Companionship of the Order of St. Michael and St. George upon seven, the Distinguished Service Order has been gained by three, the Military Cross by fifteen, the Croix de Guerre by one, while 53 have been

mentioned in despatches during the year under review. There are now sixty-two members of the academic and administrative staffs absent on war service. The effect of the war is also seen in the number of graduations. Whereas in the year 1914 there were 130, in the year 1915 the number was 94.

The work of the College has been carried on to meet the needs of the number of students present. Effective co-operation has been arranged with King's and Bedford Colleges, so as to meet the difficulties occasioned by the absence on war service of members of the staff. Work was begun in the current session in the new chemical laboratories, parts of which have been completed. The removal into these new laboratories has made it possible to extend the special work in connexion with the war. Dr. Rudolph Messel made a gift of £500 for the equipment of a joint workshop for the Departments of Chemistry and Physics. For the completion of the chemical laboratories, including their equipment, a sum of £13,000 is required.

Increasing Price of Drugs.

Compared with the increase in the cost of food-stuffs since the beginning of the war, the rise in the value of drugs has been extraordinary. The following list of twenty commonly prescribed drugs shows how many times dearer they are now as compared with the prices quoted before the war: Permanganate of potash, 27; phenacetin, 26; aspirin, 25; salicylic acid, 20; potassium bromide, 16; antipyrine, 12; cod liver oil, 11; antifebrin, 11; cocaine, 7½; chlorate of potash, 7; carbolic acid, 6; sulphonal, 5; thymol, 3½; tartaric acid, 3½; caffeine, 3½; quinine, 3; veronal, 3; calomel, 2½; cream of tartar, 2; citric acid, 2.

In most cases the cause of these advances is that before the war this country was almost entirely dependent upon Germany for its supply of such drugs as phenacetin, aspirin, antipyrine, and so on. A few of them are now being made in this country, but as the raw materials from which they are manufactured are the same as those used for the production of explosives the quantity available is severely restricted, and prices consequently remain at a high level. Nevertheless, a new drug industry has been established in this country, and when the raw material again becomes freely available at a normal cost, manufacturers hope that they will be able to produce such articles as aspirin, salicylic acid, and phenacetin to sell at something like the prices at which the Germans were selling them before the war.

The most remarkable advance is in the case of permanganate of potash, which used to be sold at the rate of 40s. per cwt. Now, however, it is quoted on the wholesale market at 10s. per lb., and dealers who used to traffic in ton lots are now glad enough if they can pick up a few pounds from retail chemists. This article used to be the basis of home-made disinfectants, and as carbolic acid is also much dearer in consequence of its being required for the manufacture of explosives, the cost of the production of disinfectants has increased enormously.

Illusions of the Upper Air.

Sir Napier Shaw, Director of the Meteorological Office, in the course of a lecture at the Royal Institution on March 10, 1916, on the fallacies of meteorology, said that in the last twenty years investigations beyond the cloud region had caused meteorologists to revise the theories by which they accounted for cyclones and anti-cyclones. The isothermal layer at a height of six miles, where changes of temperature did not take place, and the discovery by the aid of registering balloons that, while the layers of temperature in the lower region were horizontal, they became vertical in the upper air, had destroyed a prevailing illusion. It used to be thought that cyclones were due to pressure caused by the warming of the atmosphere from below, on the supposition that the sun warmed the earth and the earth warmed the air. But the variation of temperature extended to 10 or 11 kilometres, and it was impossible to believe that pressure from the bottom took effect at such a height. If the pressure were from the top it would be different. Then there was the question how the velocities were produced, and it was found that they were due to air moving with a force caused by the rotation of the earth in combination with the force of pressure. This complication further contradicted the theory of convergence. At 1,500 feet, the distribution of pressure could not be determined, but at that height the convergent character that a cyclone had on the earth's surface did not exist, the convergence being due to a hindrance of motion by the earth's surface. It was, in fact, hopeless to look for the key to pressure distributions near the surface. They were due to motion arising from a balance of forces. The effect of pressure of layers of air of different degrees of humidity in producing clouds was illustrated by some remarkable photographs showing the gradual development of cirrus and other formations.

Correspondence.

THE METRIC SYSTEM IN PRESCRIBING.

Sir,—I was greatly interested by Dr. J. C. Verco's address on metric prescribing and your leading article on the same subject in *The Medical Journal of Australia* of July 1. I sincerely hope Dr. Verco will succeed in his campaign in Adelaide, and I think he is making a most excellent proposition in suggesting that it should be adopted in the next revision of the Adelaide Hospital Pharmacopœia, and that, further, the metric method alone should be used in it, to the exclusion of the old system. If the old system is retained at all, I am certain it will nullify the reform. But will he carry the proposal? I remember that when I made a similar proposal some years ago, as a member of a committee for revision of the Sydney Hospital Pharmacopœia, it was received with a mixture of pity, amusement and horror. For several years I used nothing but the metric method of prescribing in my private practice, but, in the end, I had to retire from the contest with the chemists. I do not mean with all of them or most of them, for many are keen and progressive. But I got tired of having my patients coming back to me and wanting to know what had made the chemist swear so much, or what had made him so bad-tempered, and why did he grumble when he had to make up the prescription? So I got tired of the contest. Many men will admit that a reform is desirable, but they refrain from beginning to reform at home. They prefer to float with the stream and let somebody else do the reforming. I am now floating easily and comfortably with the stream. I am a looker-on at a battle I have given up myself. But I hope Dr. Verco will succeed in Adelaide; he is a strong man and a powerful.

I would like to add some constructive criticism on the method of writing prescriptions. First, let me record my conviction of the superiority of the method of writing prescriptions for solutions, lotions, etc., by the percentage method. I have never given this up, but have persisted in it to the present day. Ointments and powders may be prescribed by writing the ingredients as either "parts" or in percentages. Secondly, I can say from a good deal of practical experience that there is a much better method of writing a decimal prescription than the old one indicated by dots. The risk of error when dots or points are employed is a very real one, and Dr. Verco has noticed it. This risk is entirely avoided by drawing a vertical line so that the integer stands to the left of it and the fraction to the right. The method is simple, easy and quite obvious in its interpretation.

Let me take the prescription written by Dr. Verco and write it again, with the line instead of the points:—

Tr. senegæ	min. xv.	1.0	1 0
Tr. digitalis	min. v.	0.3	0 3
Oxym. scillæ	℥ ss.	2.0	2 0
Ad. ad.	℥ ss.	15.0	15 0

I know of no safeguard against mistake that can be clearer than this last method. I do not remember where I picked it up, but I can give it a most emphatic recommendation, and I have used it thousands of times.

Yours, etc.,

C. E. CORLETTE.

A WARNING.

A correspondent, writing from a Sydney suburb, wishes to warn his colleagues against a plausible rogue, who has succeeded in deceiving him and at least one other medical

practitioner. This individual called on him one evening, at about 6.30. He stated that he owned a small orchard just beyond the turn of the main road, and appeared to be greatly surprised that our correspondent did not recognize him. He stated that the latter had attended his wife "some time ago, for asthma or something of that sort." He then said that his son had gone to a seaside place for a week and had been drowned or nearly so. He wished to bring him home if he were well enough, and asked the doctor if he would be available to attend the son on his arrival. He then left. A short time later he returned, and stated that he had received a telephonic message, calling him in haste to his son's death-bed. In his hurry and distress he had unfortunately left home with only 1s. 6d. in his pocket. Our tender-hearted correspondent lent him 10s., and, naturally, saw no more of him. A medical man, living next door, had fallen into a similar trap some short time before. The description of this individual is as follows:—

Age from 45 to 50; wiry and active; fair hair and moustache, otherwise clean-shaven; decently dressed; sober; had a familiar, cheery manner; medium height.

Proceedings of the Australasian Medical Boards.

TASMANIA.

Dr. Stuart Galloway Gibson has been registered under the provisions of "The Medical Act, 1908," as a duly qualified medical practitioner.

Medical Appointments.

Dr. James Pirie has been appointed Government Medical Officer at Liverpool, New South Wales, in place of Dr. J. A. Beattie (resigned).

Dr. Frederick Charles Seymour Shaw has been appointed Deputy Licensing Magistrate to the Licensing Court for the Licensing District of Wyalong, New South Wales.

Dr. James Thompson has been appointed Acting Officer of Health for the Shire of Alberton, Victoria, in place of Dr. Arthur Augustus Crooks (resigned).

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United F.S. Institute.
WESTERN AUSTRALIA. (Hon. Sec., 230 St. George's Terrace, Perth.)	Swan District Medical Officer. All Contract Practice Appointments in Western Australia.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Department of Public Instruction—New Appointments as Medical Officer, Ophthalmic Surgeon, Ear, Nose and Throat Surgeon, Physician. Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Orange. F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
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NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	F.S. Lodges, Wellington, N.Z.

Diary for the Month.

July 11.—Tas. Branch, B.M.A., General.
July 11.—N.S.W. Branch, B.M.A., Ethics Committee.
July 13.—Vic. Branch, B.M.A., Council.
July 14.—S. Aust. Branch, B.M.A., Council.
July 14.—N.S.W. Branch, B.M.A., Clinical.
July 15.—Northern Suburbs Med. Assoc. (N.S.W.).
July 18.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
July 19.—W.A. Branch, B.M.A., General.
July 25.—N.S.W. Branch, B.M.A., Medical Politics, Organization and Science Committee.
July 26.—Vic. Branch, B.M.A., Council.
July 27.—S.A. Branch, B.M.A., Branch.
July 28.—N.S.W. Branch, B.M.A., Ordinary.
Aug. 2.—Vic. Branch, B.M.A., Branch.
Aug. 4.—Q. Branch, B.M.A., Branch.
Aug. 8.—N.S.W. Branch, B.M.A., Ethical Committee.

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